TECHNOLOGY FOR LIBRARIANS 101

COMPUTER HARDWARE
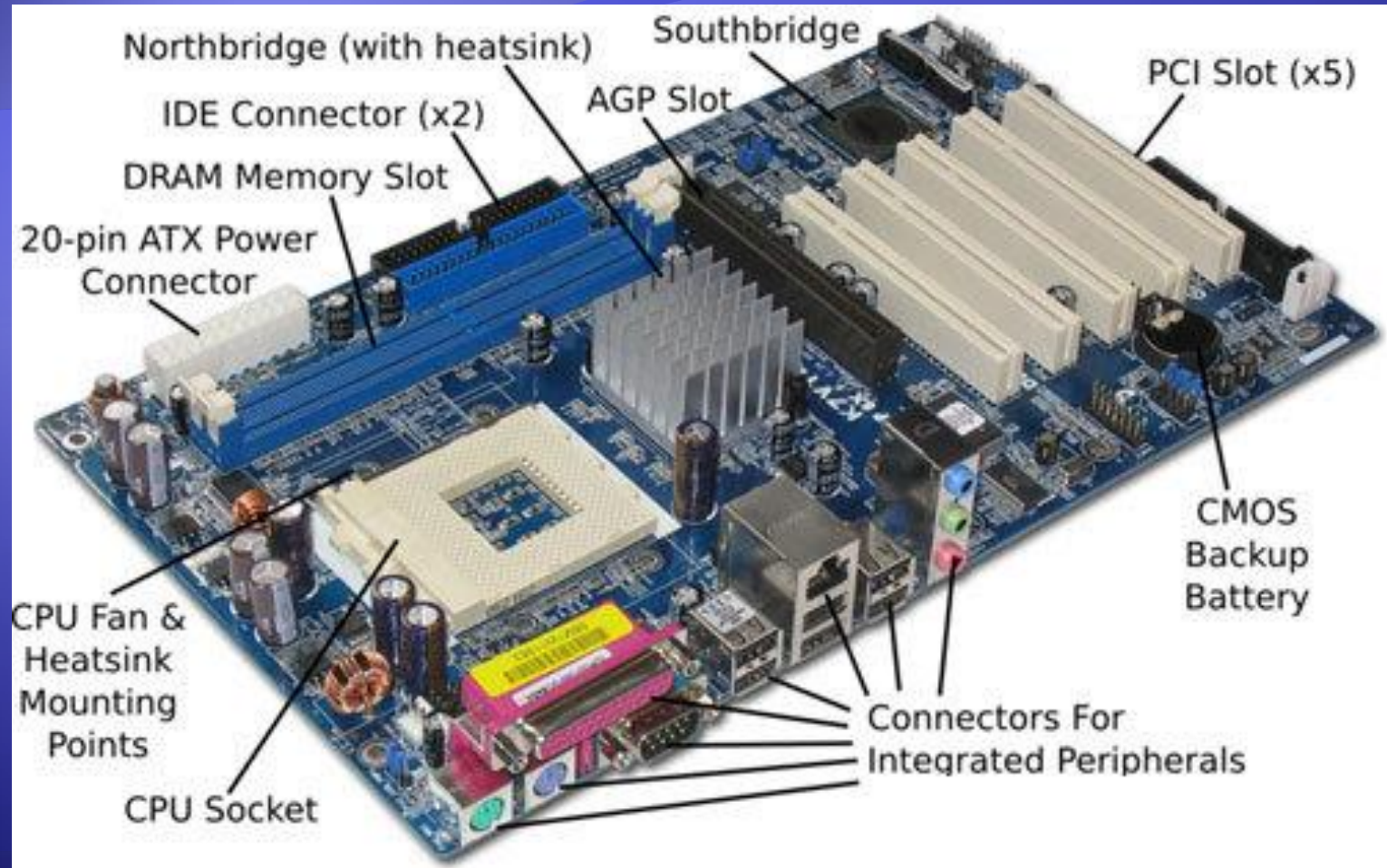
Nebraska Library Commission
September 2014

Form factors
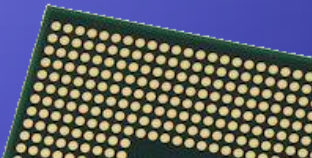
- Desktop
- Laptop
- Netbook
- Tablet

Motherboard

Northbridge (with heatsink)

Southbridge

PCI Slot (x5)

IDE Connector (x2)

AGP Slot

DRAM Memory Slot

20-pin ATX Power Connector

CPU Fan & Heatsink Mounting Points

CPU Socket

CMOS Backup Battery

Connectors For Integrated Peripherals

CPU (Central Processing Unit)

- Intel/AMD

- Different form factors

- Speed measured in gigahertz (GHz)

- Can have multiple "cores"
  - Dual-core, Quad-core

32 bit, 64 bit?

- The terms 32-bit and 64-bit refer to the way a computer's processor (also called a CPU), handles information. The 64-bit version of Windows handles large amounts of random access memory (RAM) more effectively than a 32-bit system.

Power Supply

Cooling System

- ◆ Directs heat away from the CPU

Memory (RAM)

- Measured in Gigabytes (amount of storage)
- Different types
- Different form factors
  - Laptop vs. desktop
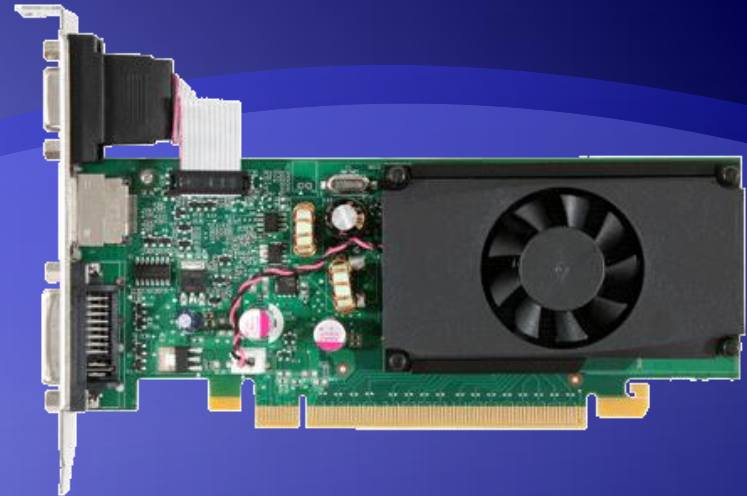- Check with your computer's manual for the right type!

Storage

- Hard Drive
  - Internal vs. External
- Solid-state Drive
  - Flash Drive
- Optical Media
  - CD-ROM
  - DVD-ROM
  - Blu-ray

Graphics Card

- May be built into the motherboard

- Can add more powerful dedicated card which has it's own dedicated video RAM

Connectors

Ethernet

WiFi
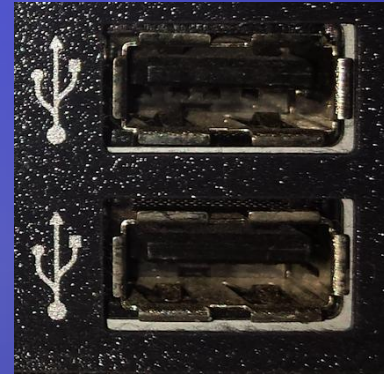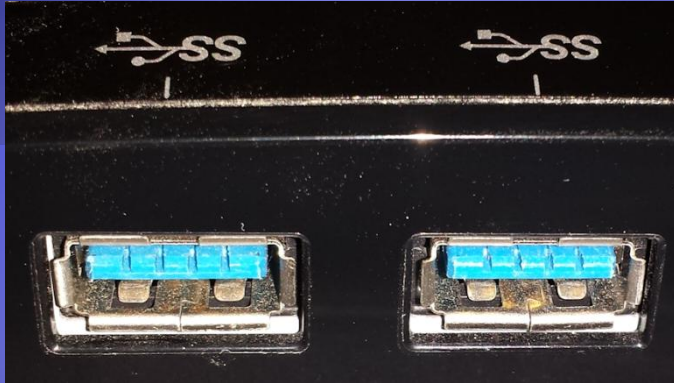
Firewire

USB

Video Connectors

VGA

DVI

HDMI

images not to scale

USB

USB Ports

USB Cables

Peripherals

Card Readers

Card Front   **Card Back**

External Card Reader

Laptop

Desktop

xD / Smart Media   SD/mini/MMC/RS/Plus/Mobile

Compact Flash I / II / MD   MS/PRO/Duo/PRO Duo
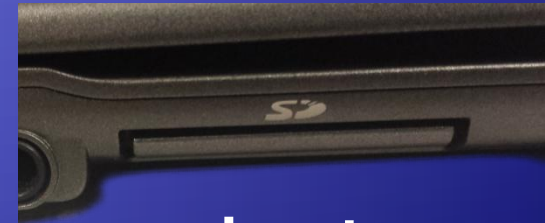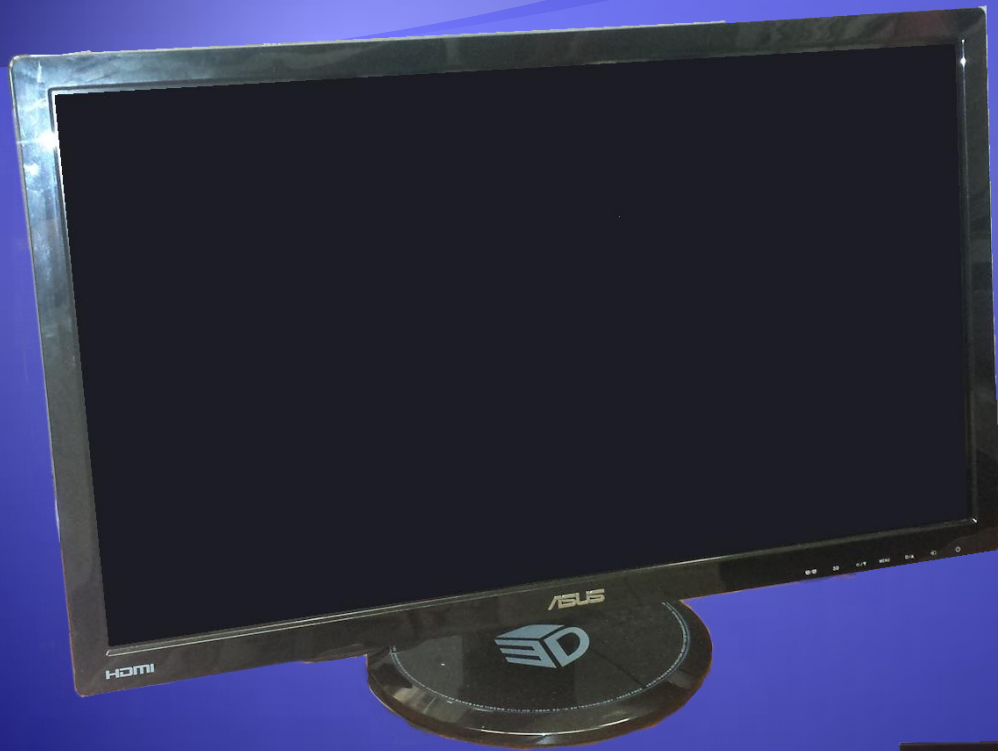
Monitors

Operating System

- Windows
- MacOS
- Linux
  - Ubuntu
  - RedHat
  - Fedora

Printers

Do you need a new computer?

- What tasks do you need to accomplish with the computer?
- In what sort of situation will it be used?
- What is your budget?
- Do you have special requirements?
- No, there isn't a "best" time to buy.

Find Ratings & Recommendations

COMPUTER BUYING GUIDE

New York Public Library

NYPL Tech Connect

Class Handout

1. **Your Budget and**
   - Determine what
   - There is ALWAYS
   - New computers word processing

2. **Desktop vs. Lapt**
   - Every new compute

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COMPUTERS & SOFTWARE

Overview

Computer Buying Guide

College-Specific Recommendations

Wi-Fi (Wireless) Card

Windows Operating System

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Desktop Computer Reviews   *Updated May 2014*

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If you don't need the portability of a laptop computer, a desktop computer still provides the best bang for the buck. ConsumerSearch profiles the best desktop computers for all budgets and all uses based on extensive feedback from expert and user reviewers. Windows

TOP 6 Best Reviewed

BEST REVIEWED

Dell XPS
Best all-in-on
The Dell XPS all-in-one com overall for mos computational

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Library Organizations
Nebraska Libraries
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Talking Books & Braille

Computer Hardware Purchasing Recommendations (7.08.14)

This list represents the Nebraska Library Commission's recommendations for libraries planning to purchase **general-purpose** computer hardware or software. It is **not** intended to cover all applications or all situations. Specialized applications such as automated library systems, desktop publishing, gaming, or network servers may require significantly different configurations. We also recommend viewing two of the NCompass Live sessions on the topics of computers: What to Know Before You Buy, and Setting Up Your Public Access Computers.

♦ **Desktop Computers or Workstations**

Processor: i5 meets or exceeds typical library applications. The icore CPUs use less power, generate less heat, and have better built in graphics than older processors. icore CPUs have two physical cores, plus two additional logical cores making them better at multi-tasking. Their versatility versus cost is better than either the i3 or i7. The motherboards that accommodate the icore processors are supposed to allow an easy upgrade path to a better CPU down the road.

How to select a processor http://www.intel.com/consumer/products/processors/comparison.htm

Compare Intel Core processors http://www.intel.com/consumer/products/processors/compare-processors.htm

Operating System Software: For workstations, the Library Commission recommends Microsoft Windows 7 Professional or Ultimate edition. We recommend 64-bit Windows provided any workstations to be upgraded

THANKS!

Devra Dragos   devra.dragos@nebraska.gov
Laura Johnson   laura.johnson@nebraska.gov
Allana Novotny   allana.novotny@nebraska.gov
Holly Woldt   holly.woldt@nebraska.gov
Nebraska Library Commission   800.307.2665

This presentation is a revision of a presentation originally by Michael Sauers. Thank you, Michael, for your help!